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EXAMINER

ABDI, AMARA

ART UNIT

PAPER NUMBER

2609

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/762,824

Applicant(s)

NOMURA ET AL.

Examiner

Amara Abdi

Art Unit

2609

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 9-18 is/are rejected.
- 7) ☒ Claim(s) 7 and 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 12/20/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description:

- In **figure 21**, reference character **305** is not mentioned in the specification.

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The specification is objected to because of the following informalities:

(1) On page 2, line 9, "**te**" should be changed to "**the**";

(2) On page 4, line 6, the examiner suggest inserting "**an**" between "**is**" and "**object**", and deleting "**is**" between "**object**" and "**to**";

(3) On page 8, line 5, "**patters**" should be changed to "**patterns**";

(4) On page 20, line 15, the examiner suggests deleting "**it**" between "**register**" and "**is**";

(5) On page 60, line 5, "(NO in step **304**)" should be changed to "(NO in step **305**); and "(YES in step **304**)" should be changed to "(YES in step **305**)".

Appropriate correction is required.

Claim Objections

3. Claims 13-15 are objected to because of the following informalities:

(1) Claim 13, line 1, "**patter**" should be changed to "**pattern**"; on line 3, "**patters**" should be changed to "**patterns**";

(2) Claim 14, line 9, "**a basis**" should be changed to "**the basis**".

(3) In claims 14 and 15, there are no transitional phrases, for example, "comprising", "consisting essentially of" and "consisting of" in the claims. The transition phrases "**comprising**", "**consisting essentially of**" and "**consisting of**" define the scope of claim with respect to what unrecited additional components or steps, if any, are excluded from the scope of the claims.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6, line 3-4, recite the limitation "**the respective relevant information**". There is insufficient antecedent basis for the limitation in the claim. The "**respective relevant information**" is not introduced before.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claim 18 is rejected under U.S.C. 101 because the claimed invention is directed to non- statutory subject matter.

In claim 18, a "**computer program**" is being recited; however, computer program would reasonably be interpreted by one of ordinary skill in the art as software, pre se. This subject matter is not limited to that which falls within a statutory category of invention because it is limited to a process, machine, manufacture, or a composition of matter. Software is a function descriptive material and function descriptive material is non-statutory subject matter.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-2,6, and 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada (US 5,038,223) in view of Tayoda et al. (US 6,700,680).

(1) Regarding claims 1,17, and 18:

Yamada disclose an image processing method and apparatus (column 2, line 16), and computer program (column 6, line 11-12; and column 10, line 26) comprising steps of:

obtaining input image information including input image data from an input device (column 6, line 17-20);

discriminating plural subjects existing in the input image data; dividing the input image data into plural subject patterns corresponding to the discriminated plural subjects (column 6, line 49-55), (the examiner interpreted the edge detector as discriminating the plural subjects existing in the input image data);

processing the input image data of the plural subject patterns (column 6, line 60-66), (the examiner interpreted that the line thickening processor is processing the input image of the subject patterns).

However, Yamada does not disclose the image processing method, where obtaining a relationship among the plural subject patterns; and determining the processing method for the input image data on the basis of the relationship as recited in claims 1,17, and 18.

Toyoda et al. teaches an image formation apparatus, where the relation between pixels and pixels areas and the threshold is obtained (column 7, line 40-43); and the processing method for the input image data bases of the relationship is determined (column 8, line 39-44), (the examiner interpreted that the processing method is prepared as table)

One of ordinary skill in the art would have clearly recognized the obtaining of relationship among the plural subject patterns (column 7, line 11-24), and determining the processing method for the input image data on the basis of the relationship (column 8, line 44-48). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine the system of Toyoda et al., where the relationship among plural subjects is obtained, in the system of Yamada, because such feature the generation of isolated dots by which the gradation is not reflected to a print result is reduced (column 2, line 61-63), as well as simplifying the gradation converting process and realize a high processing speed (column 2, line 64-65).

(2) Regarding claim 2:

Yamada disclose all the subject matter as described in claim 1 above.

However, Yamada does not that the processing method is determined for each subject pattern based on respective relevant information regarding each subject pattern as recited in claim 2.

Toyoda et al. teaches an image formation apparatus, where the processing method is determined for each subject pattern (column 8, line 39-41), (the examiner interpreted the subject pattern as pixel) based on the information regarding each subject

pattern (column 8, line 45-48), (the examiner interpreted that the table provides the information for each subject pattern (pixel)).

One of ordinary skill in the art would have clearly recognized the determining of the processing method for each subject pattern (column 8, line 39-43) based on relevant information regarding each subject pattern (column 8, line 44-48). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine the system of Toyoda et al., where the relationship among plural subjects is obtained, in the system of Yamada, because such feature the generation of isolated dots by which the gradation is not reflected to a print result is reduced (column 2, line 61-63), as well as simplifying the gradation converting process and realize a high processing speed (column 2, line 64-65).

(4) Regarding claim 6:

Yamada further discloses the method, where the dividing step is conducted by a pattern extracting process to extract the plural subject patterns from the input image data (column 7, line 63-68) and the respective relevant information includes pattern information regarding each extracted subject pattern (column 9, line 57-59).

(5) Regarding claim 13:

Yamada further discloses the method, where when each subject pattern comprises plural unit patterns (column 5, line 24-25), the pattern extracting process extracts the plural unit patterns (column 12, line 63-66) and detects the existence situation of each subject pattern from connecting conditions among the plural unit patterns (column 4, line 9-11).

(6) Regarding claim 14:

Yamada disclose all the subject matter as described in claim 13 above.

Furthermore, Yamada discloses the method, where the pattern extracting process is conducted by the input device (column 2, line 32-34), (the examiner interpreted that the customer will appoint an area via the input device such as keyboard, and since the extracted process is based on the appointed area, that means the pattern extracted device is conducted by the input device), in such a way that the location of each of the plural unit patterns is inputted on a screen on which the input image data is indicated (column 6, line 46), (the examiner interpreted that a video controller is connected to the display, therefore the plural unit patterns is inputted on the screen),

However, Yamada does not disclose the method, where the pattern extracting process obtains connecting relation information among all of the extracted plural unit patterns, and determines the subject pattern information from the connecting relation information and extracts the plural subject patterns from the input image data on a basis of the subject pattern information as recited in claim 14.

Toyoda et al. teaches an image formation apparatus, where the relation between pixels and pixels areas and the threshold is obtained (column 7, line 40-43); and the subject pattern information from the connecting relation is determined (column 8, line 39-44), (the examiner interpreted that the processing method is prepared as table).

One of ordinary skill in the art would have clearly recognized the obtaining of relationship among the extracted plural unit patterns (column 7, line 11-24), and determining subject pattern information from the connecting relation (column 8, line 44-

48). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine the system of Toyoda et al., where the relationship among plural subjects is obtained, in the system of Yamada, because such feature the generation of isolated dots by which the gradation is not reflected to a print result is reduced (column 2, line 61-63), as well as simplifying the gradation converting process and realize a high processing speed (column 2, line 64-65).

(7) Regarding claim 15:

Yamada disclose all the subject matter as described in claim 14 above.

Furthermore, Yamada disclose the method, where the obtaining step selects a set of input image data from plural sets of input image data (column 2, line 4-7), and the pattern extracting process obtains the subject pattern information (column 2, line 33-34), (the examiner interpreted the subject pattern information as the appointed area).

However, Yamada does not disclose the method, where the subject pattern information including the connecting relation information from the selected set of input image data and the processing step conducts the image processing for the other sets of input image data by applying the subject pattern information to the other sets of input image data as recited in claim 15.

Toyoda et al. teaches an image formation apparatus, where the subject pattern information including the connecting relation information from the selected set of input image data (column 7, line 40-43), and the processing step conducts the image processing for the other sets of input image data by applying the subject pattern information to the other sets of input image data (column 8, line 39-44), (the examiner

interpreted the processing for the other sets is the same concept as of the processing method recited in claim 1).

One of ordinary skill in the art would have clearly recognized the method, where the connecting relation information from the selected set of input image data is included in the subject pattern information (column 7, line 11-24), and conducting the image processing for the other sets of input image data by applying the subject pattern information to the other sets of input image data (column 8, line 44-48). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine the system of Toyoda et al., where the connecting relation information is included in the subject pattern information, in the system of Yamada, because such feature the generation of isolated dots by which the gradation is not reflected to a print result is reduced (column 2, line 61-63), as well as simplifying the gradation converting process and realize a high processing speed (column 2, line 64-65).

(8) Regarding claim 16:

Yamada further discloses the method, where the pattern extracting process extracts the plural subject pattern in relation to customer information (column 2, line 32-34), (the examiner interpreted that it's the customer who will appoint an area, and since the extracting information is based on the original image data in the appointed area, that is means the extracting process has a relation with the customer information).

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10. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada and Tayoda et al., as applied to claim 2, and further in view of Aoyama et al. (US PG PUB 2005/0012856).

(1) Regarding claim 3:

Yamada and Tayoda et al. disclose the entire subject as described in claim 2 above.

However, Yamada and Tayoda et al. do not disclose the method, where the relevant information includes priority order information set for each subject as recited in claim 3.

Aoyama et al. teaches an image signal processing apparatus and processing method, where the shift buffer determines the priority of the data for each subject (paragraph [0071], line 5-7)

One of ordinary skill in the art would have clearly recognized the method, where the relevant information includes priority order information set for each subject (paragraph [0071], line 5-11). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine the system of Aoyama et al., where determining the priority information order, in the system of Yamada, because such feature is capable of increasing image quality by smoothing motions while suppressing screen flicker disturbance, with respect to image signals generated by performing double-speed conversion, even in images of wide variations (paragraph [0022], line 3-7).

(2) Regarding claim 4:

Yamada and Tayoda et al. disclose the entire subject as described in claims 1 and 2 above.

However, Yamada and Tayoda et al. do not disclose the method, where the priority order information is set in accordance with kind of each subject as recited in claim 4.

Aoyama et al. teaches an image signal processing apparatus and processing method, where the priority information is set in accordance with the type of each subject (paragraph [0071], line 6-7), (the examiner interpreted the kind of each subject as whether the flag F is larger or smaller than the flag F')

One of ordinary skill in the art would have clearly recognized the method, where the priority order information is set in accordance with kind of each subject (paragraph [0071], line 6-11). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine the system of Aoyama et al., where the priority data depends on the kind of each subject, in the system of Yamada, because such feature is capable of increasing image quality by smoothing motions while suppressing screen flicker disturbance, with respect to image signals generated by performing double-speed conversion, even in images of wide variations (paragraph [0022], line 3-7).

(3) Regarding claim 5:

Yamada and Tayoda et al. disclose the entire subject as described in claims 1 and 2 above.

However, Yamada and Tayoda et al. do not disclose the method, where the priority order information includes a weighting value as recited in claim 5.

Aoyama et al. teaches an image signal processing apparatus and processing method, where the priority order information (paragraph [0071], line 5-7) includes a weighting value (paragraph [0064], line 5).

One of ordinary skill in the art would have clearly recognized the method, where the priority order information (paragraph [0071], line 5-7) includes a weighting value (paragraph [0064], line 4-6). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine the system of Aoyama et al., where the priority order includes a weighting value, in the system of Yamada, because such feature increases the amount with which the position of the detected pixel is shifted every time the field shifts from the first field to the following fields within a range of a vector quantity of the detected motion vector (paragraph [0024], line 23-27).

11. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada and Tayoda et al., as applied to claim 1 above, and further in view Imaizumi et al. (US PG PUB 2002/0024541).

(1) Regarding claim 9:

Yamada and Tayoda et al. disclose all the subject matter as described in claim 1 above.

However, Yamada and Tayoda et al. do not disclose the method, where the plural subjects existing in the input image data are discriminated in accordance with scene attribution of the input image data as recited in claim 9.

Imaizumi et al. teaches an image forming apparatus, where the attribute map is prepared based on the discrimination of the different areas of the input image (paragraph [0039], line 5-7).

One of ordinary skill in the art would have clearly recognized the method, where the areas of monochromatic image and areas of color image to be processed are discriminated in accordance with the scene attribution of the input image data (paragraph [0039], line 2-7). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine the system of Imaizumi et al., where the plural subjects are discriminated in accordance with scene attribution of the input image, in the system of Yamada, because such feature forms images of a documents group including monochromatic documents and color documents at a fast speed without changing the color of the documents (paragraph [0008], line 2-4).

(2) Regarding claim 10:

Yamada and Tayoda et al. disclose all the subject matter as described in claim 1 above.

However, Yamada and Tayoda et al. do not disclose the method, where the input image information includes the scene attribution as additional information as recited in claim 10.

Imaizumi et al. teaches an image forming apparatus, where in the copying machine, the input image information includes the average LA and the gradation with index LD, which are used to discriminate whether the image in the block is a monochromatic image or a color image (paragraph [0055], line 2-7), (the examiner interpreted that since the input image includes another information therefore the scene attribution is an additional information in the input image)

One of ordinary skill in the art would have clearly recognized the method, where the input image includes the scene attribution as additional information (paragraph [0055], line 1-7). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine the system of Imaizumi et al., where the scene attribution is additional information in input image data, in the system of Yamada, because such feature the image forming can be performed faster by keeping the order of the printed papers the same as that of the original documents (paragraph [0012], line 2-3).

12. Claims 11 and 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada, Tayoda et al., and Aoyama et al., as applied to claims 1 and 3 above, and further in view of Nozaki (US PG PUB 2001/0052996).

(1) Regarding claim 11:

Yamada, Tayoda et al. disclose all the subject matter as described in claim 1 above.

However, Yamada, Tayoda et al. do not disclose the method, where the input device inputs the scene attribution of the input image data as recited in claim 11.

Nozaki teaches a photo printing method and system using a plurality of printers, where the input device inputs the scene attribution of the input image data (paragraph [0048], line 1-5).

One of ordinary skill in the art would have clearly recognized the method, where the input device inputs the scene attribution of the input image data (paragraph [0048], line 1-9). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine the system of Nozaki, where the input device inputs the scene attribution, in the system of Yamada, because such feature since printing data is transmitted to the printers in a state for accepting data, idle time is reduced to realize efficient processing, compared with the case of transmitting data after fully completing printing of a preceding order (paragraph [0012], line 7-11).

(2) Regarding claim 12:

Yamada, Tayoda et al., and Aoyama et al. disclose the entire subject matter as described in claim 3 above.

However, Yamada, Tayoda et al., and Aoyama et al. do not disclose the method, where the priority order information is set in accordance with the scene attribution of the input image data as recited in claim 12.

Nozaki teaches a photo printing method and system using a plurality of printers, where the priority order information is set in accordance with the scene attribution of the input image data (paragraph [0050], line 1-7).

One of ordinary skill in the art would have clearly recognized the method, where the priority order information is set in accordance with the scene attribution of the input image data (paragraph [0049], line 4-11; and paragraph [0050], line 1-7). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to combine the system of Nozaki, where the priority order information is set in accordance with the scene attribution of the input image data, in the system of Yamada, because such feature the distributing step includes assigning priority to the orders, and the outputting step includes outputting the image information in an order of higher priority to one of the printers in a state for accepting printing data (paragraph [0011], line 2-5).

Allowable Subject Matter

13. Claim 7 and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

14. The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not teaches or suggest that the pattern information includes sub-priority order.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kubota et al. (US 5,548,696) teaches an image processing apparatus with respect to a plurality of input video data.

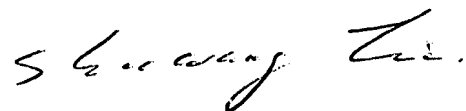
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16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amara Abdi whose telephone number is (571) 270-1670. The examiner can normally be reached on Monday through Friday 7:30 Am to 5:00 PM E.T..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shuwang Liu can be reached on (571) 272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Amara Abdi
05/09/2007.



SHUWANG LIU
SUPERVISORY PATENT EXAMINER